What is claimed is:

1. A video imaging system comprising:

a substrate of a semiconductor material;

an imaging array formed in said substrate and having a plurality of picture elements (pixels) each pixel being adapted to receive light and convert the light to an electrical signal, said imaging array having an output port for providing the electrical signals from the pixels representing an active video image;

a first circuit formed in said substrate and connected to receive the pixel signals and for analyzing the pixel signals to provide a defective pixel output signal indicating if any one pixel of the plurality of pixels in the imaging array is defective, as the pixel signal corresponding to the one pixel is processed by the first circuit.

2. A video imaging system in accordance with claim 1 wherein the first circuit includes:

a filter that is responsive to a plurality of pixel values adjacent to the one pixel to provide an output signal; and

circuitry including a comparator which compares the one pixel and to the output signal of the filter to determine if the one pixel is defective.

3. A video imaging system in accordance with claim 2, wherein the comparator further includes hysteresis circuitry that establishes a range of values including a value of the output signal of the filter and indicates that the one pixel is defective only when the one pixel has a value that is outside of the range of values.

4. A video imaging system in accordance with claim 3 further comprising a gain control circuit, formed in said substrate, the gain control circuit providing a camera pixel gain control output signal, wherein the hysteresis circuitry is responsive to the gain control output signal for establishing the range of values.

5. A video imaging system in accordance with claim 2 wherein:

the imager further includes optics for focusing an image onto the imaging array, the optics having a modulation transfer function (MTF); and

the filter has a frequency response characteristic that approximates the MTF of the optics.

6. A video imaging system in accordance with claim 2, wherein the filter is an averaging filter that averages the plurality of adjacent pixel values to produce the output signal.

7. A video imaging system in accordance with claim 1 further comprising a second circuit, formed in said substrate, coupled to receive the defective pixel output signal, the one pixel and a corrected version of the one pixel, the multiplexer providing the corrected pixel when the defective pixel output signal indicates that the one pixel is defective.

8. A video imaging system in accordance with claim 7, wherein the second circuit further comprises a histogramming circuit, which generates the corrected pixel from the pixel signals provided by the imaging array.

9. A video imaging system in accordance with claim 7, wherein the second circuit further comprises a filter which filters the pixel signals representing respective pixel values adjacent to the one pixel to generate the corrected pixel.

10. A video imaging system in accordance with claim 7, wherein:

the first circuit includes:

a filter that is responsive to a plurality of pixel values adjacent to the one pixel to provide an output signal; and

circuitry including a comparator which compares the one pixel and to the output signal of the filter to determine if the one pixel is defective; and

the second circuit is coupled to the first circuit to receive the output signal of the filter as the corrected pixel.

11. An video imaging system in accordance with claim 7 in which the imaging array is a CMOS imager and the first and second circuits are CMOS circuits formed concurrently with the CMOS imager.

12. A method for processing video signals representing at least one video image, each video image including a plurality of picture element (pixel) signals, the method comprising the steps of:

analyzing the pixel signals to provide a defective pixel output signal indicating if any one pixel of the plurality of pixels in the at least one video image is defective, including the steps of:

filtering a plurality of pixel values adjacent to the one pixel in the at least one video image to provide an output signal;

processing the output signal to establish a range of values including the output signal; and

comparing the one pixel to the range of values to provide a defective pixel output signal if the one pixel has a value outside of the range of values.

13. A method for processing video signals in accordance with claim 12 further comprising the steps of:

modifying the pixel signals in magnitude responsive to a gain control signal; and

modifying the range of values responsive to the gain control signal.

14. A method for processing video signals in accordance with claim 12, wherein the video images are formed in accordance with a modulation transfer function (MTF); and

the step of filtering the plurality of pixel values adjacent to the one pixel value includes the step of filtering the plurality of pixel values with a frequency response characteristic that approximates the MTF to produce the output signal.

15. A method for processing video signals in accordance with claim 12, wherein the video images are formed in accordance with a modulation transfer function (MTF); and

the step of filtering the plurality of pixel values adjacent to the one pixel value includes the step of averaging the plurality of adjacent pixel values to produce the output signal.

16. A method for processing video signals in accordance with claim 12, further including the step of replacing the one pixel with a corrected version of the one pixel when the defective pixel output signal indicates that the one pixel is defective.

17. A method for processing video signals in accordance with claim 16, further includes the step of generating a histogram of the pixels in at least a portion of the video image including the one pixel and selecting a most frequently occurring pixel to generate the corrected version of the one pixel.

18. A method for processing video signals in accordance with claim 16, further includes the step of filtering the plurality of pixels to generate the corrected pixel.

19. A method for processing video signals in accordance with claim 16, further including the step of applying the output signal of the filtering step as the corrected pixel.